

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IB2005/000111

International filing date (day/month/year)
18.01.2005

Priority date (day/month/year)
19.01.2004

International Patent Classification (IPC) or both national classification and IPC
B21C47/32, B21C47/30

Applicant
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1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/B2005/000111

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/B2005/000111

Box No. V Reasoned statement under Rule 43*bis*.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	
Inventive step (IS)	Yes: Claims	1-10
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

- 1 Reference is made to the following documents:
D1 : US 3 945 585 A (MOSLENER JORN) 23 March 1976 (1976-03-23)
- 2 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):

A device for coiling a long product (9) comprising a mandrel (2) with a substantially cylindrical shape and rotating around its own axis, and a containing element (6) coaxial with said mandrel (2), rotating together therewith and defining a front wall to contain the coil of product (9) to be formed, wherein said mandrel (2) comprises a forming zone for at least a first spiral of said coil and wherein said containing element (6) comprises an annular channel (11) to clamp the leading end of said product (9) around said mandrel (2), wherein said containing element (6) is axially movable with respect to said mandrel (2) between a first position wherein said leading end of said product (9) is inserted, in which first position said annular channel (11) is arranged in correspondence with said forming zone, and a second position wherein said coil of product (9) is completed, in which second position said annular channel (11) is displaced from said forming zone, said containing element (6) remaining in said first position temporarily.

From this, the subject-matter of independent claim 1 differs in that:

in said second position said containing element (13) is retracted with respect to said mandrel (2) so that said annular channel (14) is outside the space occupied by said coil during the completion of said coil.

- 2.1 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT)

The problem to be solved by the present invention may be regarded as: providing a device for the simplified forming of compact coils of metal products, having the correct density and geometric shape and removal of said coils from a winding mandrel without having the initial spirals protruding from said coil.

- 2.2 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

A coiling device with a retractable containing element which allows the forming of compact coils of metal products, having the correct density and geometric shape and removal of said coils from a winding mandrel without having the initial spirals protruding from said coil is not known from the prior art and furthermore D1 teaches away from the subject-matter of claim 1.

- 2.3 Claims 2-7 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

- 3 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):

A method for coiling a long product (9) achieved by means of a device that comprises a mandrel (2) with a substantially cylindrical shape and rotating around its own axis, and a containing element (6) coaxial with said mandrel (2), rotating together therewith and defining a front wall to contain the coil of product (9) to be formed, wherein it comprises the following steps: a first step wherein a leading end of said product (9) is inserted into a guide and containing device (6) able to guide said leading end to a position substantially tangent to a determinate forming zone of said mandrel (2), said first step occurring while said containing element (6) is in a first position for the insertion of said leading end of said product (9), substantially in correspondence with said determinate forming zone of said mandrel (2); a second step wherein said leading end of said product (9) is introduced into an annular channel (11) of said containing element (6); a third step wherein at least the first spiral of said product (9) is formed inside said containing element (6) around said mandrel (2); and a fourth step wherein said containing element (6) is displaced axially with respect to said mandrel (2) to a second position for the completion of said coil of product (9).

- 3.1 The subject-matter of claim 8 therefore differs from this known D1 in that: in said second position said annular channel (14) is displaced from said forming zone, in a

retracted position with respect to said mandrel (12) so that said annular channel (14) is outside the space occupied by said coil during the completion of said coil said annular channel is outside the space occupied by said coil during the completion of said coil.

- 3.1 The subject-matter of claim 8 is therefore novel (Article 33(2) PCT)
The problem to be solved by the present invention may be regarded as:

Providing a method for the simplified forming of compact coils of metal products, having the correct density and geometric shape and removal of said coils from a winding mandrel without having the initial spirals protruding from said coil.

- 3.2 The solution to this problem proposed in claim 8 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

A coiling method in which a retractable containing element which allows the forming of compact coils of metal products, having the correct density and geometric shape and removal of said coils from a winding mandrel without having the initial spirals protruding from said coil is not known from the prior art and furthermore D1 teaches away from the subject-matter of claim 1.

- 3.3 Claims 9, 10 are dependent on claim 8 and as such also meet the requirements of the PCT with respect to novelty and inventive step.